RE: NWOD - possible use of Portland Cement for stabilization - Harper's MSDS

Kathryn Hernandez to: pfuglevand 06/27/2012 12:33 PM

From: Kathryn Hernandez/R8/USEPA/US
To:
Cc: "'Bill Rees'" <brees@utah.gov>, "'Elizabeth Palmer'" <epalmer@utah.gov>, "Pak, Eugene" <EugenePak@chevron.com>, "'Skance, John'" <John.Skance@bp.com>, "Laura Briefer" <laura.briefer@slcgov.com>, <mpetschke@entact.com>, "Rob Webb" <rwebb@dofnw.com>

After reviewing your proposal for the use of Portland Cement for stabilization, the EPA and State are in agreement that we do not support addition of the cement within the canal. We are willing to review the application of the cement in the SPA area.

Let me know if you have any questions or concerns.

Thank you,

Kathy
Kathryn Hernandez
USEPA, Region VIII (8EPR-SR)
1595 Wynkoop Street
Denver, CO 80202
(303) 312-6101(office)
(720) 352-7497(cell)

-----"Paul Fuglevand" <pfuglevand@dofnw.com> wrote: -----
To: "'Bill Rees'" <brees@utah.gov>
From: "Paul Fuglevand" <pfuglevand@dofnw.com>
Date: 06/26/2012 06:48PM
Cc: Kathryn Hernandez/R8/USEPA/US@EPA, "'Elizabeth Palmer'" <epalmer@utah.gov>, <mpetschke@entact.com>, "Laura Briefer" <laura.briefer@slcgov.com>, "Pak, Eugene" <EugenePak@chevron.com>, "Rob Webb" <rwebb@dofnw.com>, "'Skance, John'" <John.Skance@bp.com>
Subject: RE: NWOD - possible use of Portland Cement for stabilization - Harper's MSDS
Bill, the contractor is not proposing any other ad mixtures, just Portland Cement, so the MSDS sheets I sent you cover the intended stabilizing materials.
Contractor's General Approach.

- Bypass the canal flow and remove excess seepage water from the canal before adding cement, otherwise the benefit will be lost if too much water is present
- Add a limited amount of Portland Cement, about 5% to 10% weight, to sediment in the canal
- Mix the Portland Cement with the sediment in the canal to initiate stabilization
- Excavate the sediment and Portland Cement from the canal
- Remove any excess Portland Cement in the canal.
- Flood the canal once all sediment with Portland Cement is removed

By bypassing the canal flow and removing seepage water from the canal before adding the Portland Cement, the contractor greatly reduces the potential for surface water impacts. There will be some short-term effect from the Portland Cement in the drained canal, possibly increased pH in contact soil and groundwater. Removing the soft sediment and the added Portland Cement from the canal, as well as a few inches of native material, will limit the long-term impacts.

Paul Fuglevand

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From: Bill Rees [mailto:brees@utah.gov]
Sent: Tuesday, June 26, 2012 3:30 PM
To: pfuglevand@dofnw.com
Cc: hernandez.kathryn@epa.gov; Elizabeth Palmer
Subject: Re: NWOD - possible use of Portland Cement for stabilization - Harper's MSDS

Paul,

Do you have an MSDS for any ad mixes to the Portland Cement?

Also,

I have questions about the proposal to stabilize sediments in the canal by adding the cement. What procedures are you guys proposing to ensure there is no potential impact to surface water, groundwater, etc.. See my last e-mail.

Thanks,

Bill

>>> "Paul Fuglevand" <pfuglevand@dofnw.com> 6/25/2012 7:46 AM >>>
As requested by Bill Rees, here are MSDS sheets for Harper's Portland Cement for possible use at NWOD Segment 2A to stabilize sediment, both in the canal and at the SPA, 5% to 10% by weight. Information supplied by Working Group's contractor, ENTACT.
Bill, let me know if you need any other information.

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From: Mark Petschke [mailto:mpetschke@entact.com]
Sent: Monday, June 25, 2012 3:59 AM
To: pfuglevand@dofnw.com; Rob Webb; Laura Briefer
Subject: RE: NWOD - possible use of Portland Cement for stabilization

Here is some information from a potential supplier

Mark A. Petschke, PE
ENTACT, LLC
(972)580-1323 Main
(412)567-4024 Direct
(412)576-3561 Mobile
mpetschke@entact.com

_____

From: Paul Fuglevand [pfuglevand@dofnw.com]
Sent: Friday, June 22, 2012 4:22 PM
To: Mark Petschke; Rob Webb; Laura Briefer
Subject: FW: NWOD - possible use of Portland Cement for stabilization
Here are some initial thoughts from UDEQ on using Portland Cement in the canal. Mark, you can see his concern over the type of pozzolan. Any input you can provide will be helpful. It is not a slam dunk.

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From: Bill Rees [mailto:brees@utah.gov]
Sent: Friday, June 22, 2012 1:13 PM
To: pfuglevand@dofnw.com
Cc: hernandez.kathryn@epa.gov; Elizabeth Palmer
Subject: RE: NWOD - possible use of Portland Cement for stabilization

Paul,

I think we are willing to have a discussion, especially if there is benefit/efficiency in the long run and we can demonstrate there is no risk using the material. A few additional thoughts as we continue this discussion.

Does the pozzolan under consideration contain blast furnace slag? See http://en.wikipedia.org/wiki/Pozzolan

Also, is the intent to add the material in the canal or in the SPA area? This too could make a difference. If it is added outside the canal in the SPA, for example, the issue simply may be whether PAC West will take the sediment with this additional agent. If the material is added in the canal, then we (DEQ/EPA) need to make sure there are no possible adverse impacts to the canal, canal water, etc.. (such as elevated pH, or Total Dissolved Solids for example).

Please share your thoughts on this e-mail. A MSDS of the product is worthwhile in this evaluation.

Thanks,

Bill

>>> "Paul Fuglevand" <pfuglevand@dofnw.com> 6/21/2012 6:08 PM >>>

Bill, in response to your questions:
1. the contractor has requested consideration of using standard Portland Cement to stablilize NWOD sediment, the same material that is used to make commercial concrete. He is not requesting consideration of fly ash. I will ask him to track down a MSDS for the Portland Cement.
2. Zap Zorb is a polymer that simply binds up water to pass Paint Filter Test- it is used in baby diapers and in food storage. But it does not really improve the strength of the sediment. Portland Cement reacts with the water to form concrete, so it both eliminates free water and improves the strength of the material.
3. We have not spoken with Pac West yet, but based on past conversations we anticipate a favorable response. We will approach them next week.

I am responding to you before I have all of the information as I would like to keep this conversation moving. Does this information help at all.
Are you inclined to consider Portland Cement, if we stay away from fly ash.
Or do you have a general objection to using any pozzolan including cement.
If you opposed to Portland Cement then maybe I don't need to spend much more time pursing it. If it is a possibility then we will keep checking into it.

Paul Fuglevand

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From: Bill Rees [mailto:brees@utah.gov]
Sent: Thursday, June 21, 2012 2:57 PM
To: pfuglevand@dofnw.com
Cc: hernandez.kathryn@epa.gov; Elizabeth Palmer
Subject: Re: NWOD - possible use of Portland Cement for stabilization

Paul,

To help us further evaluate your request, please provide the MSDS sheet(s) and other applicable product information for the Pozzolan reagent.

In addition, please indicate how this reagent is different than the ZapZorb previously used at the site and indicate if PAC West will accept sediments solidified with the Pozzolan reagent.

Is fly ash present between 5-10% weight?

Thanks,

Bill

Bill Rees, P.G.
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Division of Environmental Response and Remediation
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Tel: (801) 536-4167
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>>> "Paul Fuglevand" <pfuglevand@dofnw.com> 6/19/2012 6:01 PM >>>
Bill, Liz, and Kathy, the NWOD contractor for Segment 2A (ENTACT) has asked if it would be possible to use a pozzolan-type reagent to solidify canal sediments. It would improve handling and transportation. We raised Bill s concerns regarding fly ash material, and the contractor said

that use of Portland Cement (PC) would be viable at 5%-10% by weight.

ENTACT has successfully implemented this methodology on a large-scale project with very similar sediments under similar canal flow bypass conditions and requirements. The proposed PC dosage would be utilized in two phases. Phase I would introduce PC to the canal sediments as the sediments are being handled within, and excavated from, the canal. The PC would be delivered via excavator bucket or SuperSack to minimize air quality impacts and to facilitate the accurate dosing and delivery of the PC to the sediments. The partially solidified sediments would then be placed into dump trucks and delivered to a central location for Phase II PC treatment in order to meet the requirements for offsite transportation and disposal

As part of our initial review of the contractors suggestion I wanted to see if either of you had specific concerns regarding the use of PC, including as an in-canal stabilizing agent. I would appreciate your input at this early stage. Thanks.

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